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Latest technique in climate forecasts show decrease in summer rainfall

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Results from the latest multiple model ensemble techniques in climate change forecasting, published by the Royal Society, indicate that average summer rainfall for northern Europe could decrease by between 5 and 20 per cent by the end of the century.

The findings use Met Office Hadley Centre climate simulations in a multiple model ensemble. This method has been pioneered by climate research scientists at the Met Office and is described in an article on its website.

Read the article: What can climate scientists tell us about the future?

It is thanks to multiple model ensembles that climate scientists will be able to provide a more systematic risk assessment of projected climate change. The ultimate aim is to generate detailed probabilities for a range of possible changes in climate, designed to give more information on the possible uncertainties in future climate.

Dr James Murphy, Head of Climate Prediction at the Met Office, who pioneered this work, said: "The science of probabilistic and ensemble climate prediction is still rather young but is growing quickly."Today"s results are a step forward, but the numbers should be regarded as preliminary. The Met Office is implementing further developments in the technique, which will provide a basis for the estimation of probabilities associated with different levels of future climate change."

Dr Vicky Pope, Head of Climate Change for Government at the Met Office Hadley Centre, said: "By making use of such a wealth of data, covering such a wide array of climate processes, multiple model ensembles allow for far better management of risks than when only using one projection, and can inform policy in a far more comprehensive and meaningful way than was previously the case."

Notes:

- The results using multiple runs of the Met Office Hadley Centre model with different physics provisionally suggest that summer rainfall will decrease by between 5 and 20 per cent by the end of the century across northern Europe (comparing the average over 2070-2100 with the average from 1961-1990), using a medium greenhouse gas emissions scenario.
- Dr Vicky Pope has written about what climate modellers can tell us - What can climate scientists tell us about the future?
- This research was published "in the Philosophical Transactions of the Royal Society as" Pope, V.,"Brown, S.,"Collins, M.,"Collins, W.,"Harris, G., Jones, C.,"Lowe, J.,"Keen, A., Ringer, M., Scaife, A., Sitch, S. and Webb, M., 2007: The Hadley Centre approach to climate modelling: The competing requirements for improved resolution, complexity and dealing with uncertainty. Proceedings of climate workshop." In:" Phil Trans Roy Soc, 15 November 2007 p 2635-2657.
- The Met Office Hadley Centre is the UK"s foremost centre for climate change research. Partly funded by Defra (the Department for Environment, Food and Rural Affairs) and the Ministry of Defence.
- Climate change research relies on the use of highly complex computer models simulating atmospheric circulation, rainfall, cloud formation as well as ocean circulation. The use of multiple model ensembles allows scientists to quantify the degree of uncertainty in their projections and a greater range of inputs ensures findings that are scientifically robust.
- Met Office models will also soon include elements such as detailed chemistry and interaction between climate change and biological processes including the release of greenhouse gases from the soil under certain global warming scenarios.
- The Met Office Hadley Centre model suggests that although it is very likely that overall summers will become drier, it is likely that summer showers will become heavier.

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